The opinion in support of the decision being entered today was *not* written for publication and is *not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte NOBUYUKI NEMOTO, TARO ASAO, KAZUO TANAKA, and KAZUNORI HORACHI

Appeal 2007-0396
Application 10/078,488
Technology Center 2600

Decided: March 28, 2007

Before KENNETH W. HAIRSTON, MAHSHID D. SAADAT, and JEAN R. HOMERE, *Administrative Patent Judges.*

HOMERE, *Administrative Patent Judge.*

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134 from the Examiner's final rejection of claims 3-5 and 8-10. We have jurisdiction under 35 U.S.C. § 6(b) to decide this appeal.

The Examiner rejects claims 3, 4, and 8 as follows[1]:

A. Claims 3 and 8 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Ford.

B. Claim 4[2] stands rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Appellants regard as the invention.

The Examiner relies on the following reference:

Ford	US 6,392,769 B1	May 21, 2002

Independent claim 3 is illustrative and representative of the Appellants' invention. It reads as follows:

> 3. A controlling system for use with variable attenuators disposed in a WDM transmitting apparatus for adding and dropping a WDM optical signal, the controlling system comprising;
>
> a plurality of variable attenuators for adjusting optical power levels of optical signal components of individual wavelengths demultiplexed from the WDM optical signal;
>
> a plurality of output optical level detecting units detecting the output optical levels of the plurality of variable attenuators; and

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1 The Examiner has withdrawn the rejection of claims 4-5 and 9-10 under 35 U.S.C. § 103(a) as being unpatentable over the combination of Ford and Minamimoto in response to Appellants' argument that Minamimoto does not qualify as prior art under 35 U.S.C. § 103(c). Consequently, the Examiner has indicated that claims 5, 9 and 10 are objected to as being dependent upon a rejected base claim, but they would be allowable if rewritten to include all the limitations of the base claim and any intervening claims. The Examiner has also indicated that claim 4 would be allowable under the same circumstances, if in addition it is rewritten to overcome the rejection under 112, second paragraph. (Answer 3).

2 We note that claims 4 and 9 are similar in scope. Therefore, we will enter a new ground of rejection against claim 9 as being indefinite.

a feed-back circuit for controlling adjustments of the optical attenuation amounts of the plurality of variable attenuators,

wherein optical signal components of individual wavelengths whose power levels have been adjusted by the plurality of variable attenuators are multiplexed and thereby a WDM optical signal is generated and transmitted.

wherein a target value is set for the feed-back circuit, the target value representing the optical power level of each of the optical signal components of individual wavelengths, and

wherein when an optical signal component of a wavelength of the WDM optical signal is disconnected, the feed-back circuit sets the attenuation amount of a variable attenuator assigned to the optical signal component to a predetermined value.

First, Appellants contend that claim 4 is not indefinite. Particularly, Appellants contend that the Examiner failed to provide a rational basis for rejecting claim 4 under 35 U.S.C. § 112, second paragraph. (Br. 3). In contrast, the Examiner contends not being able to understand how the variable attenuator is set as low as the optical signal in order not to destroy the WDM transmitting apparatus, and such that the optical level detecting unit can detect the output optical level of the variable attenuator. (Answer 5-6). Next, Appellants contend that claims 3 and 8 are not anticipated by Ford.[3] In particular, Appellants argue that Ford does not teach setting a variable attenuator to a predetermined value when an optical signal

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3 This decision considers only those arguments that Appellants submitted in the Appeal and Reply Briefs. Arguments that Appellants could have made but chose not to make in the Briefs are deemed to have been waived. See 37 C.F.R. § 41.37(c)(1)(vii) (eff. Sept. 13, 2004). See also In re Watts, 354 F.3d 1362, 1368, 69 USPQ2d 1453, 1458 (Fed. Cir. 2004).

component is disconnected (Br. 5-6). In contrast, the Examiner contends that Ford teaches the claimed limitation by setting the power level of the output signal of the variable attenuator to a predetermined value when an optical signal component is dropped. (Answer 7-8). Consequently, the Examiner concludes that Ford anticipates claims 3 and 8.

ISSUES

The *pivotal* issues in the appeal before us are as follows:

(1) Under 35 U.S.C. § 112, second paragraph, is claim 4 indefinite for failing to particularly point out and distinctly claim the subject matter which Appellants regard as the invention when claim 4 can be interpreted in at least two different ways?

(2) Under 35 U.S.C. § 102(e), does Ford anticipate the claimed invention when Ford teaches setting the power level of the output signal of the variable attenuator to a predetermined value when an optical signal component is dropped?

FINDINGS OF FACT

Appellants invented a controlling system that uses variable attenuators to adjust power levels of optical signals in a Wavelength Division Multiplexing (WDM) transmitting apparatus (Specification 1: 6-9). In particular, the invention aims at compensating for the fluctuation of optical power levels due to disconnected optical signal components, as a way to prevent an output signal from surging (Specification 1: 9-15). As illustrated in figure 6, the variable attenuators (VAT1-VATn) are controlled by a feed-back circuit (12) that adjusts the attenuation amounts of the variable attenuators to reduce power levels of optical signal components of a demultiplexed WDM signal. Connected to the output of the variable

attenuators are optical level detecting units (PD1-PDn) that detect the output power levels of the variable attenuators and transmit the detected levels to the feed-back circuit (figure 6). When an optical level detecting unit detects a disconnection of an optical signal component from one of the variable attenuators, the attenuation amount for that particular variable attenuator is set to a predetermined value by the feed-back circuit (Specification 17: 13-20).

Ford discloses an automatic level control circuit for stabilizing optical transmission systems (col. 1, ll. 1-2). Particularly, Ford is concerned with compensating for various fluctuations due to WDM channel add/drop reconfigurations (col. 4, ll. 23-25). As illustrated in figure 4, the variable attenuators (402) control the output signal level of received input optical signals. These variable attenuators are connected to optical level detecting units (405) that detect the output power levels of the variable attenuators and send the detected levels to the feed-back circuit (409). The feed-back circuit then controls the variable attenuators according to the detected levels (col. 6, ll. 64-66 and figure 4). When the power level of an optical signal component is determined to fall below a certain threshold (i.e., the signal is dropped) the feed-back circuit adjusts the variable attenuator to bring the power level to the predetermined value (col. 6, l. 66-col. 7, l. 4).

PRINCIPLES OF LAW

1. INDEFINITENESS

The test for definiteness under 35 U.S.C. § 112, second paragraph, is whether "those skilled in the art would understand what is claimed when the claim is read in light of the specification." *Orthokinetics, Inc. v. Safety*

Travel Chairs, Inc., 806 F.2d 1565, 1576, 1 USPQ2d 1081, 1088 (Fed. Cir. 1986). Moreover, "the legal standard for definiteness is whether a claim reasonably apprises those of skill in the art of its scope." *In re Warmerdam*, 33 F.3d 1354, 1361, 31 USPQ2d 1754, 1759 (Fed. Cir. 1994).

2. ANTICIPATION

It is axiomatic that anticipation of a claim under § 102 can be found only if the prior art reference discloses every element of the claim. *See In re King*, 801 F.2d 1324, 1326, 231 USPQ 136, 138 (Fed. Cir. 1986) and *Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 1458, 221 USPQ 481, 485 (Fed. Cir. 1984).

In rejecting claims under 35 U.S.C. § 102, a single prior art reference that discloses, either expressly or inherently, each limitation of a claim invalidates that claim by anticipation. *Perricone v. Medicis Pharmaceutical Corp.*, 432 F.3d 1368, 1375-76, 77 USPQ2d 1321, 1325-26 (Fed. Cir. 2005), citing *Minn. Mining & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 1565, 24 USPQ2d 1321, 1326 (Fed. Cir. 1992). Anticipation of a patent claim requires a finding that the claim at issue "reads on" a prior art reference. *Atlas Powder Co. v. IRECO, Inc.*, 190 F.3d 1342, 1346, 51 USPQ2d 1943, 1945 (Fed Cir. 1999) ("In other words, if granting patent protection on the disputed claim would allow the patentee to exclude the public from practicing the prior art, then that claim is anticipated, regardless of whether it also covers subject matter not in the prior art.") (internal citations omitted).

ANALYSIS-NEW GROUND OF REJECTION

A. INDEFINITENESS REJECTION

We begin with the rejection of claim 4 under 35 U.S.C. § 112, second paragraph, as being indefinite. The text of claim 4 recites, "... the predetermined value of said variable attenuator is as low as an optical signal that is transmitted from the WDM transmitting apparatus...and as the output optical level detecting unit can detect an output optical level of the variable attenuator." We note that the cited language can be interpreted at least in two different ways. Under the first interpretation, the claim language appears to suggest that the predetermined value of the variable attenuator is set to the same level of an optical signal transmitted from the WDM transmitting apparatus. Under the second interpretation, the claim language appears to suggest that the attenuation value is set so low such that the optical signal transmitted from the WDM does not destroy a WDM apparatus, as Appellants suggested in the Brief (Br. 4).[4] Therefore, because there are at least two different interpretations of claim 4, one of skill in the art would not have been reasonably apprised of the scope of the claim. Moreover, those skilled in the art would not have understood what was claimed in claim 4 even when read in light of the Specification because the Appellants' description in the Specification is equally confusing.[5]

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4 At page 4 of the Appeal Brief, Appellants states that "[f]urther claim 4 clearly states that the attenuator amount is set low but not so low that an abrupt signal input destroys a transmitter of the next stage in the transmission path and so that an[] output level of the attenuator can be used by an optical detection unit to detect such an abrupt signal."

5 Appellants' Specification, pages 17-18, states "that 'predetermined fixed value' is a value that is sufficiently small as an output signal (of which an optical surge is not output from the post-AMP) and that when an optical

In view of the ambiguous description provided in Appellants' Specification coupled with the two possible interpretations noted above, we conclude that one of skill in the art would not have been able to determine the scope of claim 4 in light of the Specification. Therefore, we find that the Examiner did not err in rejecting claim 4 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Appellants regard as the invention.

B. NEW GROUND OF REJECTION UNDER 37 CFR § 41.50

We find that claims 4 and 9 are similar in scope. Therefore, the Examiner should have rejected claim 9 for indefiniteness as well. Accordingly, we impose the new ground of rejection under 37 CFR § 41.50(b).

Claim 9 is rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Appellants regard as the invention. The language of claim 9 is indefinite for the same reasons set forth in the discussion of claim 4 above. This new ground of rejection includes a claim that was previously indicated as containing allowable subject matter. Accordingly, we find that the Examiner erred in indicating allowability of the subject matter recited in claim 9.

C. ANTICIPATION REJECTION

Next, we turn to the rejections of claims 3 and 8 under 35 U.S.C. § 102(e) as being anticipated by Ford. As set forth above, representative claim 3 requires the feedback circuit to set the attenuation amount of the variable attenuator to a predetermined value when an optical signal is

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signal is input to the VAT, the corresponding PD can sufficiently detect the optical signal)."

disconnected. Similarly, as discussed in the findings of fact above, Ford teaches that the feedback circuit set the output voltage of the attenuator to a predetermined value in order to compensate for an optical signal being disconnected. We find that by disclosing a predetermined value for the output voltage of the attenuator, Ford implicitly teaches a predetermined value for the attenuator, as well. We note that while Appellants' Specification calls for a "predetermined *fixed*[6] value" for the attenuator, claim 3 is not so limiting. Instead, claim 3 merely recites that the attenuation amount be set to a predetermined value. Clearly, the claimed predetermined value is not fixed. We also note that a predetermined value is generally defined as a value that is established ahead of time.[7] Thus, under a broadest reasonable interpretation, we construe a predetermined value in this case as a value established ahead of time by a particular equation (e.g. R=V/I).[8] Accordingly, we find that by setting the output voltage of the attenuator to a predetermined value, Ford provides an equation that allows the attenuation amount to be calculated ahead of time. After considering the

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6 Id.

7 Webster's II New Riverside University Dictionary, pp. 927, 1994.

8 We are not persuaded by Appellants' argument that setting an output signal level of the variable attenuator to a predetermined value is sufficiently different from setting an attenuation amount of the variable attenuator to a predetermined value (Br., 6). In order to facilitate the analysis of their invention and the prior art, Appellants assert that the input signal level, attenuation amount, and output signal level are analogous to current, resistance, and voltage respectively (Br., 7). In their analysis of Ford, Appellants apply the conventional equation V=I*R to model the changes in the attenuation amount when the output signal level is held constant and the input signal level is varied (Id.). According to Appellants, the attenuation amount in Ford "must change [and] not stay constant or at a predetermined amount as called for in claim 3" (Id.).

entire record before us, we find that the Examiner did not err in rejecting claims 3 and 8 under 35 U.S.C. § 102(e) as being anticipated by Ford.

CONCLUSION

On the record before us, we conclude that:

(1) Claim 4 is indefinite for failing to particularly point out and distinctly claim the subject matter which Appellants regard as the invention when claim 4 can be interpreted in at least two different ways.

(2) Ford anticipates the claimed invention when Ford teaches setting the power level of the output signal of the variable attenuator to a predetermined value when an optical signal component is dropped.

DECISION

(1) We have affirmed the Examiner's decision to reject claim 4 under 35 U.S.C. § 112, second paragraph, and claims 3 and 8 under 35 U.S.C. § 102(e).

(2) We have reversed the Examiner's decision regarding the allowability of subject matter recited in claim 9.

(3) We have entered a new ground of rejection against claim 9 under 37 C.F.R. § 41.50(b). 37 C.F.R. § 41.50(b) provides that, "[a] new ground of rejection pursuant to this paragraph shall not be considered final for judicial review."

37 C.F.R. § 41.50(b) also provides that the Appellant, *WITHIN TWO MONTHS FROM THE DATE OF THE DECISION*, must exercise one of the following two options with respect to the new grounds of rejection to avoid termination of proceedings as to the rejected claims:

> (1) Submit an appropriate amendment of the claims so rejected or new evidence relating to the claims so rejected, or both, and have the

matter reconsidered by the examiner, in which event the proceeding will be remanded to the examiner ...

(2) Request that the proceeding be reheard under 37 C.F.R. § 41.52 by the Board upon the same record ...

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a).

AFFIRMED;

37 C.F.R. § 41.50(b)

tdl/GW

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